

TLE Content by Course

BASIC MATHEMATICS

WHOLE NUMBERS

Whole Numbers. Powers and Exponents. Divisibility Rules. Prime Factors and Exponents.

FRACTIONS AND DECIMALS

Fraction Conversions. Decimal Conversions. Ordering Numbers. Terminating and Repeating Decimals. Multiplication with Decimals. Division with Decimals. Order of Operations.

INTEGERS

An Introduction to Integers. Adding Integers. Subtracting Integers. Multiplying and Dividing Integers.

RATIONAL NUMBERS AND SQUARE ROOTS

Calculating Square Roots. Adding and Subtracting Fractions. Adding Fractions (Unlike Denominators). Subtracting Fractions (Unlike Denominators). Multiplying Fractions. Dividing Fractions. Problem Solving with Fractions. Adding and Subtracting Rational Numbers. Multiplying and Dividing Rational Numbers.

RATIO AND PERCENT

Percent. Rate and Ratio. Proportions. Mental Mathematics. Applications of Percent. Three-Term Ratios. Solving Ratio and Percent Problems. Equivalent Rates.

MEASUREMENT

Units of Measurement. Classifying Angles. Angles and Parallel Lines 1. Angles and Parallel Lines 2. The Pythagorean Relationship.

AREA, PERIMETER, AND VOLUME

Area of a Triangle. Surface Area and Volume 2. Area and Perimeter 1. Area and Perimeter 2. Composite Area. Surface Area. Volume of Composite Solids.

POLYGONS AND CIRCLES

Parts of a Circle. Circle Problems. Polygons and Circles. Similar Triangles. Congruence and Similarity.

Student Workbook

432 pages. Paperbound. 8 1/2 x 11. 0-534-42036-2.

Instructor's Manual: 0-534-42037-0

PREALGEBRA

WHOLE NUMBERS

Whole Numbers. Powers and Exponents. Divisibility Rules. Prime Factors and Exponents.

FRACTIONS AND DECIMALS

Fraction Conversions. Decimal Conversions. Ordering Numbers. Terminating and Repeating Decimals. Multiplication with Decimals. Division with Decimals. Order of Operations.

INTEGERS

An Introduction to Integers. Adding Integers. Subtracting Integers. Multiplying and Dividing Integers.

RATIONAL NUMBERS AND SQUARE ROOTS

Calculating Square Roots. Adding and Subtracting Fractions. Adding Fractions (Unlike Denominators). Subtracting Fractions (Unlike Denominators). Multiplying Fractions. Dividing Fractions. Problem Solving with Fractions. Adding and Subtracting Rational Numbers. Multiplying and Dividing Rational Numbers.

THE LANGUAGE OF ALGEBRA

Patterns and Relations. Graphing Relations. Writing and Evaluating Expressions. Solving Equations by Addition and Subtraction. Solving Equations by Division and Multiplication. Substitution and Relations. Translating Written Phrases.

LINEAR EQUATIONS

Exploring Equations. Linear Equations 1. Linear Equations 2. The Coordinate Plane. Graphing Linear Equations.

POLYNOMIALS

Terms of Polynomials. Evaluating Polynomials. Adding and Subtracting Polynomials with Tiles. Multiplying Polynomials. Powers, Bases, and Exponents. Laws of Exponents: Product Laws.

RATIO AND PERCENT

Percent. Rate and Ratio. Proportions. Mental mathematics. Applications of Percent.

MEASUREMENT

Units of Measurement. Classifying Angles. Angles and Parallel Lines 1. Angles and Parallel Lines 2. The Pythagorean Relationship.

AREA, PERIMETER AND VOLUME

Area and Perimeter 1. Area and Perimeter 2. Area of a Triangle. Composite Area. Surface Area. Volume of Composite Solids. Volume. Surface Area and Volume.

POLYGONS AND CIRCLES

Parts of a Circle. Circle Problems. Polygons and Circles. Similar Triangles. Congruence and Similarity.

Student Workbook

336 pages. Paperbound. 8 1/2 x 11. 0-534-42030-3.

Instructor's Manual: 0-534-42031-1

ELEMENTARY ALGEBRA

REAL NUMBERS

Rational Number System. Describing Rational Numbers. Adding and Subtracting Rational Numbers. Multiplying and Dividing Rational Numbers. The Real Number System.

EXPONENTS

Laws of Exponents: Product Laws. Laws of Exponents: Quotient and Zero Product Rules. Laws of Exponents: Negative Exponents. Evaluating Powers. Scientific Notation.

THE LANGUAGE OF ALGEBRA

Substitution and Relations. Translating Written Phrases. Evaluating Expressions. Logic and Problem Solving. Mathematical Modeling. Equivalent Expressions. Adding and Subtracting Polynomials.

LINEAR EQUATIONS

Exploring Equations. Problem Solving. Linear Equations 1. Linear Equations 2. Linear Equations 3. Linear Inequalities.

RELATIONS AND FUNCTIONS

Equations Containing Two Variables. Linear and Non-linear Data. Rate of Change and Slope of a Line. Determining the Equation of a Line. Using a Graphing Tool. Differences between Relations and Functions. Describing Functions. Function Notation. Domain and Range of Relations. Linear Functions.

SYSTEMS OF EQUATIONS AND INEQUALITIES

Solving Systems by Graphing. Solving Linear Systems of by Elimination. Graphing Linear Inequalities. Solving Systems of Linear Inequalities.

ROOTS AND RADICALS

Using Square Roots. Approximating Irrational Numbers. Rational Exponents. Adding and Subtracting Radical Expressions. Multiplying and Dividing Radical Expressions. Nth Roots and Radicands that Contain Variables. Using the Pythagorean Relationship. Distances Between Points.

POLYNOMIALS

Multiplying Polynomials. Dividing Polynomials by Monomials. Dividing Polynomials by Binomials. Factoring Polynomials with Tiles. Factoring Polynomials. Factoring Trinomials and Difference of Squares.

QUADRATIC EQUATIONS

Solving Quadratics by Factoring. The Quadratic Formula. Using Discriminants and Graphs.

RATIO AND RATES

Three-Term Ratios. Solving Ratio and Percent Problems. Equivalent Rates. Similar Triangles.

RATIONAL EXPRESSIONS

Rational Expressions: Finding Equivalent Forms. Non-permissible Values. Multiplying and Dividing Rational Expressions. Adding and Subtracting Rational Expressions. Solving Rational Expressions. Complex Fractions. Direct and Partial Variation.

Student Workbook

336 pages. Paperbound. 8 1/2 x 11. 0-534-42032-X.

Instructor's Manual: 0-534-42033-8

INTERMEDIATE ALGEBRA

REAL NUMBERS

Data in Tables 1. Data in Tables 2. The Real Number System. Solving Problems. Operations with Real Numbers.

RADICALS

Rational Exponents. Simplifying Radical Expressions. Multiplying and Dividing Radical Expressions.

LINEAR EQUATIONS

Simplifying Algebraic Expressions. Solving Linear Equations and Formulas. Applications of Equations. The Rectangular Coordinate System.

POLYNOMIALS AND FACTORING

Multiplying Polynomials. The Greatest Common Factor and Factoring by Grouping. Factoring Trinomials and Difference of Squares. Sum and Difference of Two Cubes. Dividing Polynomials by Binomials.

RATIONAL EXPRESSIONS

Rational Expressions: Finding Equivalent Forms. Non-permissible Values. Multiplying and Dividing Rational Expressions. Adding and Subtracting Rational Expressions. Solving Rational Equations.

RELATIONS AND FUNCTIONS

Differences Between Relations and Functions. Describing Functions. Function Notation. Domain and Range of Relations.

LINEAR FUNCTIONS

Linear Functions. Direct and Partial Variations. Rate of Change and Slope of a Line. Determining the Equation of a Line.

LINEAR SYSTEMS

Solving Linear Systems by Graphing. Solving Linear Systems by Elimination. Solving Three Equations in Three Variables. Solving Linear Systems by Matrices. Solving Linear Systems by Determinants. Solving Systems of Linear Inequalities. Linear Programming.

FUNCTIONS

Functions and Operations. Inverse Functions. Graphs of Quadratic Functions. Completing the Square. Translations of Quadratic Functions.

QUADRATICS EQUATIONS

Solving Quadratics by Graphing. Solving Quadratics by Factoring. Complex Numbers. The Quadratic Formula. Using Discriminants and Graphs. Graphing Polynomial Functions. Graphing Rational Functions.

SOLVING EQUATIONS

Absolute Value Equations. Radical Equations. Rational Equations. Rational Inequalities 1. Rational Inequalities 2. Complex Fractions.

EXPONENTIAL AND LOGARITHMIC FUNCTIONS

Exponential Equations. Graphing Exponential Functions. Exponential Functions. Properties of Logarithms. Logarithmic Equations. Graphing Logarithmic Functions. Applications of Logarithms. Base-e Exponential Functions. Base-e Logarithms.

Student Workbook

336 pages. Paperbound. 8 1/2 x 11. 0-534-42034-6.

Instructor's Manual: 0-534-42035-4

COLLEGE ALGEBRA

PREREQUISITES

Rational Exponents. Solving Linear Equations. Factoring Trinomials. Sum and difference of 2 cubes. Dividing polynomials by binomials. Multiplying and dividing rational expressions. Adding and subtracting rational expressions. Solving quadratics by factoring. Complex Numbers.

RELATIONS AND FUNCTIONS

Differences between relations and functions. Describing Functions. Function notation. Domain and range of relations.

LINEAR FUNCTIONS

Linear Functions. Direct and Partial Variation. Rate of Change and Slope of a line. Determining the equation of a line. Parallel and perpendicular lines.

LINEAR SYSTEMS

Solving linear systems by graphing. Solving linear systems by elimination. Solving three equations in three variables. Solving linear systems by matrices. Solving linear systems by determinants. Solving systems of linear inequalities. Linear Programming.

FUNCTIONS

Functions and operations. Inverse functions. Graphs of quadratic functions. Completing the square. Translations of Quadratic functions.

QUADRATIC EQUATIONS

Solving quadratics by graphing. The quadratic formula. Using discriminants and graphs.

THE FUNDAMENTAL THEOREM OF ALGEBRA

Graphs of polynomial functions. The fundamental theorem. Classification of roots. Graphs of rational functions.

SOLVING EQUATIONS

Absolute value equations. Radical equations. Rational equations. Rational inequalities I. Rational inequalities II. Complex fractions.

EXPONENTIAL EQUATIONS

Graphing exponential functions. Exponential functions. Properties of logarithms.

LOGARITHMIC EQUATIONS

Graphing logarithmic functions. Applications of logarithms. Base-e exponential functions. Base-e logarithms.

CONIC SECTIONS

Circles. Parabolas. Ellipses. Hyperbolas.

SEQUENCES AND PROBABILITY

Sequences. Arithmetic sequences. Geometrical sequences. Mathematical induction. Permutations and combinations. The binomial theorem. Probability.

Student Workbook

32 pages. Paperbound. 8 x 11. 0-534-40491-X.

Instructor's Manual: 0-534-40493-6

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